

IN THE SPECIFICATION

Please replace the paragraphs beginning on page 7, line 20, and ending on page 9, line 16, with the following:

a' Figs. 1A-1D shows that native Reelin molecules form a large protein complex. (Fig. 1A) shows a schematic representation of the Reelin's primary structure. CR-50 antibody recognizes upstream of Reelin repeats. (Figs. 1B-1D) show immunoblots with anti-Reelin antibody. (Fig. 1B) shows homogenates of *reeler* heterozygote (*rl/+*) and homozygote (*rl/rl*) cerebra (E18) which were run through SDS/PAGE. (Fig. 1C) shows homogenates of cerebra (E18) and cerebella (P5) of *reeler* heterozygotes and homozygotes which were separated by native PAGE. (Fig. 1D) shows supernatants of cerebellar primary cultures of *reeler* heterozygote and homozygote (P5), which were loaded onto native PAGE gels.

Figs. 2A-2F shows results from a cell adhesion assay indicating that Reelin molecules bind to each other. (Figs. 2A & 2B) show immunostaining of *reelin*-transfected 293T cells with CR-50 antibody. When CR-50 was added to the living cells, punctate staining on the cell surface was observed (Fig. 2A), whereas cytoplasm was stained diffusely when CR-50 was added after the cells were fixed and permeabilized (Fig. 2B). (Figs. 2C-2F) show results from cell-cell adhesion assays. (Fig. 2C) shows the results from an assay using Reelin-presenting cells on a Reelin-coated dish. (Fig. 2D) shows Reelin-presenting cells on a control-coated dish. (Fig. 2E) shows control cells on a Reelin-coated dish. (Fig. 2F) shows control cells on a control-coated dish. (Fig. 2G) is a histogram showing cell numbers that are normalized to (Fig. 2F), which was scored as 100. Numbers are the mean value of five independent experiments \pm standard deviation (SD).

Figs. 3A-3F shows that CR-50 antibody inhibits homophilic interaction of Reelin molecules. ~~(Figs. 3A-3E)~~ show inhibition of cell adhesion by CR-50 antibody. ~~(Fig. 3A)~~ shows Reelin-presenting cells on a Reelin-coated dish. ~~(Figs. 3B-3D)~~ show Reelin-presenting cells on a Reelin-coated dish after incubation with 20, 50 and 200 µg/ml CR-50 antibody, respectively. ~~(Fig. 3E)~~ is a Histograms showing cell numbers of each case ~~(Figs. 3A-3D)~~ that are normalized to ~~(Fig. 3A)~~. Numbers are the mean value of five independent experiments ± SD. ~~(Fig. 3F)~~ shows inhibition of Reelin assembly by CR-50 antibody. *reeler* heterozygote cerebellar (P5) cells were cultured in the presence of no mouse IgG (-), non-immunized mouse IgG, or CR-50 antibody. The supernatants of these cultures were separated by native PAGE and blotted with anti-Reelin.

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cont

Figs. 4A-4C shows that Reelin binds to the CR-50 epitope region in a cell adhesion assay. ~~(Fig. 4A)~~ shows Reelin-presenting cells on a CR-50 epitope-coated dish (200 µg/ml). ~~(Fig. 4B)~~ shows Reelin-presenting cells on a control-coated dish. ~~(Fig. 4C)~~ is a Histograms showing cell numbers in a cell adhesion assay on CR-50 epitope-coated dishes (200 or 50 µg/ml) that are normalized to the control.

Figs. 5A-5D shows that CR-50 epitope fragments form a homopolymer. ~~(Fig. 5A)~~ shows the Elution profile of gel filtration chromatography showing that CR-50 epitope fragments form a homopolymer with a molecular mass of more than 600 kDa at 0.15 M NaCl. ~~(Figs. 5B-5D)~~ show ~~T~~that the polymer is dissociated at a higher ionic strength [0.5 M NaCl (~~Fig. 5B~~); 0.75 M NaCl (~~Fig. 5C~~); 1.0 M NaCl (~~Fig. 5D~~)]. The polymer peak appears at an elution time of 7.7 min and a monomer peak at 15.2 min. V_0 indicates the void volume of column.

a!

Figs. 6A-6F shows structural analysis of CR-50 epitope polymer. ~~(Fig. 6A) shows the~~ Absorbance spectra of Congo red with CR-50 epitope polymer (a) and without CR-50 epitope polymer (b) ~~were observed~~. A red-shift in λ_{\max} occurred when CR-50 epitope polymer was added. ~~(Fig. 6B) shows~~ ~~the~~ spectral difference between the polymer-containing solution and dye-only solution ~~was detected~~. ~~(Fig. 6C) shows the~~ CD spectra of CR-50 epitope fragments at various NaCl concentrations ~~were observed~~. ~~(Figs. 6D-6F) are~~ ~~Electron~~ micrographs of CR-50 epitope polymer by rotary shadowing method (Figs. 6D and 6E) or negative staining method (Fig. 6F). (Bar = 100 nm).